

LISTING OF CLAIMS AS OF FEBRUARY 3, 2004

1. (previously presented) An electric circuit interrupter, comprising:

a housing;

a detection mechanism located within the housing and configured to determine when a ground fault in a first circuit exists; and

an interrupter device located within the housing and configured to open the first circuit when a ground fault is detected by the detection mechanism, wherein the interrupter device includes a bistable latching relay configured such that a state of the relay can be changed when the electric circuit interrupter is operational and the state of the relay cannot be changed when the electric circuit interrupter is not operational.

2. (Original) The electric circuit interrupter of claim 1, further comprising: a reset mechanism wherein when the electric circuit interrupter is operational, has been tripped and the reset mechanism is activated, a test signal is applied to the detection mechanism and the relay is caused to change states to close the first circuit.

3. (Original) The electric circuit interrupter of claim 1, wherein when the detection mechanism determines that a ground fault exists, the relay is caused to change states to open the first circuit.

4. (Canceled)

5. (Original) The electric circuit interrupter of claim 2, wherein the reset mechanism includes means for simulating a ground fault, and the detection mechanism provides a signal to the relay when a simulated ground fault is detected by the detection mechanism, and the relay is caused to change state upon receipt of the signal.

6. (Original) The electric circuit interrupter of claim 1, wherein the detection mechanism provides a fault signal to the relay when a ground fault is detected, and the relay is caused to change state upon receipt of the fault signal.

7. (Original) The electric circuit interrupter of claim 1, wherein the detection mechanism includes a detection circuit.

8. (currently amended) A method for using an electric circuit interrupter comprising circuitry that includes a relay and a means for detecting when a ground fault exists in a first circuit, the method comprising the steps of:

connecting the electric circuit interrupter to the first circuit;

activating a reset switch on the electrical circuit interrupter to cause a simulated ground fault to occur; and

causing the relay to change states in response to detection of the simulated ground fault when the circuitry of the electric circuit interrupter is operational, such that the first circuit changes ~~between an opened state and from a closed state to an open state~~.

9. (previously presented) The method for using an electric circuit interrupter of claim 8, wherein the electric circuit interrupter inherently prevents the relay from changing states when the circuitry of the electric circuit interrupter is not operational.

10. (Original) The method for using an electric circuit interrupter of claim 8, wherein the relay includes a relay coil, and the step of causing the relay to change states can occur only when the relay coil is operational.

11. (Original) The method for using an electric circuit interrupter of claim 8, wherein the step of causing the relay to change states includes detecting a ground fault in the first circuit.

12. (Canceled)

13. (Canceled)

14. (Original) The method for using an electric circuit interrupter of claim 8, wherein the step of causing the relay to change states inherently determines whether the electric circuit

interrupter is operational.

15. (Canceled) The method for using an electric circuit interrupter of claim 8, wherein the step of causing a relay to change states opens the first circuit when the first circuit is closed.

16. (currently amended) The method for using an electric circuit interrupter of claim 8, further comprising the steps of: activating the reset switch when the first circuit is in the open state to cause a second simulated ground fault to occur, and causing the relay to change states in response to detection of the second simulated ground fault, such that the first circuit changes from the open state to the closed state wherein the step of causing a relay to change states closes the first circuit when the first circuit is open.

17. (Original) The electric circuit interrupter of claim 1, wherein the interrupter device is configured to close the first circuit when a simulated ground fault is detected by the detection mechanism.

18. (Original) The electric circuit interrupter of claim 1, further comprising a reset mechanism including means for simulating a ground fault, wherein when the reset mechanism is activated, a simulated ground fault is introduced into the electric circuit interrupter and if the electric circuit interrupter is operational, the simulated ground fault is detected by the detection mechanism and in response to such detection, the detection mechanism provides a signal to the relay causing the relay to change states.

19. (Original) The electric circuit interrupter of claim 18, wherein when the electric circuit interrupter is operational, has been tripped and the reset mechanism is activated, the relay is caused to change states to close the first circuit.

20. (Original) The electric circuit interrupter of claim 1, further comprising a reset mechanism including means for simulating a ground fault, wherein when the reset mechanism is activated, a simulated ground fault is introduced into the electric circuit interrupter and if the detection mechanism is not operational, the simulated ground fault is not detected, no signal is

provided to the relay, and the relay does not change states to close the first circuit.

21. (currently amended) An electric circuit interrupter, comprising:

a housing;

a detection mechanism located within the housing and configured to determine when a ground fault in a first circuit exists and when a simulated ground fault exists;

~~an interrupter device located within the housing and configured to open the first circuit when a ground fault is detected by the detection mechanism, wherein the interrupter device includes comprising a relay configured such that a state of the relay can be changed when the electric circuit interrupter is operational and the state of the relay cannot be changed when the electric circuit interrupter is not operational; and~~

~~a reset mechanism wherein when the electric circuit interrupter is operational, has been tripped and the reset mechanism is activated, a test signal the simulated ground fault is detected by is applied to the detection mechanism and the relay is caused to change states to close the first circuit when the first circuit is open, and to open the first circuit when the first circuit is closed.~~

22. (Original) An electric circuit interrupter of claim 21, wherein the reset mechanism includes means for simulating a ground fault, such that when the reset mechanism is activated, a simulated ground fault is introduced into the electric circuit interrupter and if the electric circuit interrupter is operational, the simulated ground fault is detected by the detection mechanism and in response to such detection, the detection mechanism provides a signal to the relay causing the relay to change states.

23. (Original) The electric circuit interrupter of claim 21, wherein the reset mechanism includes means for simulating a ground fault, such that when the reset mechanism is activated, a simulated ground fault is introduced into the electric circuit interrupter and if the detection mechanism is not operational, the simulated ground fault is not detected, no signal is provided to the relay, and the relay does not change states to close the first circuit.

24. (Original) The electric circuit interrupter of claim 21, wherein the relay is a bistable latching relay.

25. (Canceled) The electric circuit interrupter of claim 21, wherein when the detection mechanism determines that a ground fault or a simulated ground fault exists, the relay is caused to change states to open the first circuit when the first circuit is closed, and to close the first circuit when the first circuit is open.

26. (Original) The electric circuit interrupter of claim 25, wherein the detection mechanism provides a fault signal to the relay when a ground fault is detected, and the relay is caused to change state upon receipt of the fault signal.

27. (Original) The method for using an electric circuit interrupter of claim 10, wherein the relay changes states upon momentary energization of the relay coil.

28. (Original) The method for using an electric circuit interrupter of claim 10, wherein the step of causing the relay to change states can occur only when the means for detecting whether a ground fault exists is operational.

29. (currently amended) A method for using an electric circuit interrupter comprising circuitry that includes a relay, the method comprising the steps of:

connecting the electric circuit interrupter to a first circuit;
detecting whether a ground fault exists in the first circuit or whether a simulated ground fault exists; and

causing the relay to change states in response to detection of a the simulated ground fault when the circuitry of the electric circuit interrupter is operational, such that the first circuit changes from an opened state to a closed state when in an open state, and to the open state when in the closed state.

30. (Original) The method for using an electric circuit interrupter of claim 29, wherein the electric circuit interrupter inherently prevents the relay from changing states when the circuitry of the electric circuit interrupter is not operational.

31. (Original) The method for using an electric circuit interrupter of claim 29, wherein the relay includes a relay coil, and the step of causing the relay to change states can occur only when the relay coil is operational.

32. (Original) The method for using an electric circuit interrupter of claim 29, wherein the step of causing a relay to change states includes activating a reset switch on the electrical circuit interrupter.

33. (Original) The method for using an electric circuit interrupter of claim 32, wherein the step of activating a reset switch causes a simulated ground fault to occur.

34. (Original) The method for using an electric circuit interrupter of claim 33, wherein when the electric circuit interrupter is operational, detection of the simulated ground fault causes the relay to change states.

35. (Original) The method for using an electric circuit interrupter of claim 32, wherein the step of activating the reset switch inherently determines whether the electric circuit interrupter is operational.

36. (Original) An electric circuit interrupter, comprising:

a housing;

a detection mechanism located within the housing and configured to sense when a ground fault in a first circuit exists and to output an electrical signal upon sensing the ground fault;

a bistable latching relay located within the housing and configured to have a closed state wherein the first circuit is closed and an open state wherein the first circuit is opened, the bistable latching relay further configured to change from the closed state to the open state and

the open state to the closed state when the electric circuit interrupter is operational and the electrical signal is received from the detection mechanism.

37. (Original) The electric circuit interrupter of claim 36, wherein the ground fault is selected from the group consisting of: an actual ground fault in the first circuit and a simulated ground fault created by the electric circuit interrupter.

38. (Original) The electric circuit interrupter of claim 36, wherein the ground fault is an actual ground fault in the first circuit, and when the detection mechanism senses the actual ground fault, the relay is caused to change to the open state upon receipt of the electrical signal.

39. (Original) The electric circuit interrupter of claim 36, further comprising a reset mechanism including means for simulating a ground fault, wherein when the reset mechanism is activated, a simulated ground fault is introduced into the electric circuit interrupter and if the electric circuit interrupter is operational, the simulated ground fault is detected by the detection mechanism and in response to such detection, the detection mechanism provides the electrical signal to the relay to cause the relay to change to the closed state.

40. (Original) The electric circuit interrupter of claim 39, wherein if the detection mechanism or the bistable latching relay are not operational, activation of the reset mechanism does not cause the relay to change to the closed state.